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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/688,540 | 10/17/2003 | Jung Chi Tai | 251104-1010 | 1151 |
| 24504 | 7590 | 02/03/2006 | EXAMINER | |
| THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948 | | | VANATTA, AMY B | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3765 | |

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/688,540 | | TAI, JUNG CHI | |
| | Examiner | | Art Unit | |
| | Amy B. Vanatta | | 3765 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,5,8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restriction

1. Applicant's election of Species VI (SMC web) in the reply filed on 11/25/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. With regard to applicant's listing of claims readable on the elected species, it appears that claim 3 should also be included in the listing of claims, since it merely recites a spunbonded web and a meltblown web. Thus, the claims which are readable on the elected species are: Claims 1, 3, 6, 7, and 10-17.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 is confusing in further limiting both the spunbonded web and the meltblown web, when these webs were recited in claim 1 in the alternative only. Thus, it is unclear whether claim 10 is intending to claim that both the spunbonded web and the meltblown web are present. It is suggested that claim 10 be amended to recite that "the

spunbonded or meltblown web is composed of mono-component fiber or bi-component fiber of a melt-spinning polymer”, so as to maintain consistency with the alternative language of claim 1.

Claim 13 recites “the bi-component fiber of the melt spinning polymer” without proper antecedent basis. It is unclear what bi-component fiber is being referred to, since this limitation was not set forth in claim 7 (from which claim 13 depends).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 6, 7, 10-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Quantrille et al (US 5,393,599).

Quantrille discloses a process for producing a non-woven composite fabric including the step of forming at least two webs (see webs 12, 20, and 26 in Fig. 1), including a meltblown web (20; see col. 5, lines 55-56). A step of consolidating the webs by water-jet entangling into a non-woven composite is disclosed; see col. 6, lines 33-44 and see hydroentangling station 30 in Fig. 1.

Regarding claims 3, 6, and 7, Quantrille discloses that a spunbond web may be substituted for carded web 12 (col. 8, lines 63-68). In such an embodiment, the

nonwoven composite comprises a spunbond web 12, with a meltblown web 20 thereon, and a carded web 26 on the meltblown web.

Regarding claim 10, the spunbond web and meltblown web comprise mono-component or bi-component fibers of a melt spinning polymer (col. 9, lines 27-35; col. 10, lines 30-44 and 52-54; col. 11, line 56 through col. 12, line 36). Quantrille discloses that the melt spinning polymer may comprise various polymers as in claim 11, including polypropylene (col. 12, line 17), and may comprise various bi-component fiber polymers as in claim 12, including a blend of, for example, polyethylene and polypropylene (col. 9, lines 32-35). Also see col. 9, lines 27-53; col. 10, lines 30-68; col. 11, line 56 through col. 12, line 36. Quantrille discloses the use of a bi-component fiber including a lower melting component and a higher melting component (col. 9, lines 45-50), as in claim 13.

The formation of the webs and the hydroentangling step are conducted in the same production line (see Fig. 1), as in claim 15.

7. Claims 1, 3 and 10-12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Pike (US 5,935,883).

Pike discloses a process for producing a non-woven composite fabric including the step of forming at least two webs (col. 8, lines 6-10), including a meltblown web (see, e.g., col. 2, line 17). A step of consolidating the webs by water-jet entangling into a non-woven composite is disclosed; see col. 8, lines 12-16, disclosing that the two webs may be formed into a unitary web structure by hydroentangling (i.e. "water-jet entangling"). Pike discloses that the additional web which is combined with the

superfine split microfiber meltblown web may be a spunbond web (col. 8, line 23), as in claim 3. Regarding claim 10, the meltblown web comprises bi-component fibers of a melt spinning polymer (col. 3, line 66 through col. 4, line 42). Polyamide is specifically disclosed for use as the polymer (col. 5, line 12), as in claim 11. Pike discloses that the bi-component fiber may comprise polyethylene-polyethylene terephthalate (col. 7, line 7), as in claim 12. The bi-component fiber comprises a microfiber (col. 4, lines 21-46), as in claim 14.

8. Claims 1, 10, 11, 14, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda et al (US 4,146,663).

Ikeda et al disclose a process for producing a non-woven composite fabric including the step of forming at least two webs (see 11,12, and 13 in Fig. 3 or 16 and 17 in Fig. 4), these webs comprising a meltblown web (the non-woven web, e.g. 12,13,or 16, made by the melt-blow method; col. 9, lines 5-48 and 61-63). A step of consolidating the webs by water-jet entangling into a non-woven composite is disclosed (see Fig. 6; col. 4, lines 4-17; col. 10, lines 4-16). Regarding claim 10, the meltblown web of Ikeda comprises mono-component or bi-component fibers of a melt spinning polymer, as disclosed in col. 6, lines 10-49. Regarding claim 11, the melt spinning polymer is disclosed as, for example, polyamide (col. 6, line 17). Regarding claim 14, Ikeda discloses that the fiber may be a bi-component blend or mixture (col. 6, lines 10-49), and teaches that the fibers are "extremely fine fibers" having an average diameter

of 0.1 to 6.0 microns (see col. 5, line 60 through col. 6, line 9). Such extremely fine fibers are "micro fibers" to the extent recited in claim 14.

Ikeda teaches that the composite fabric is impregnated with polyurethane, which forms a step of coating with polyurethane as in claim 16 (see col. 14, lines 6-9 and col. 18, lines 56-59). Ikeda also discloses a step of coating the surface of the product with a thin layer of polyurethane, as described in col. 14, lines 61-62.

Regarding claim 17, Ikeda discloses that a drying step is performed after the coating (see col. 18, lines 65-66).

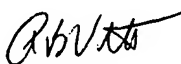
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 571-272-4983. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amy B Vanatta
Primary Examiner
Art Unit 3765